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**Deletions and Additions to Claims:**

I Claim:

1. **[ WITHDRAWN]** A method of analyzing samples of textiles, wood pulp and plant  
5 products comprising the steps of:

producing a cold water extract by extracting the samples with cold water;  
treating insoluble materials from the cold water extract step with dilute hot  
acid to yield an acid extract;

neutralizing the acid extract:

10 treating the neutralized acid extract with an alcohol to make an alcohol  
precipitate;

redissolving the alcohol precipitate in an aqueous solution, and

analyzing the aqueous solution to reveal a carbohydrate multimer pattern.

2. **[ WITHDRAWN]** The method of analyzing of Claim 1, further comprising  
15 the step of analyzing soluble mono- and oligosaccharides contained in the cold water  
extract;

3. **[ WITHDRAWN]** The method of analyzing of Claim 1, wherein the  
alcohol used is selected from the group consisting of ethanol and 1-propanol.

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4. **[WITHDRAWN]** The method of analyzing of Claim 3, wherein both ethanol and 1-propanol are used to make alcohol precipitates, and wherein the step of analyzing the aqueous solution compares redissolved ethanol precipitate to redissolved 1-propanol precipitate.

5 5. **[WITHDRAWN]** The method of analyzing of Claim 1, wherein the redissolved alcohol precipitate is subjected to enzymatic digestion with a series of endoglycosidases and exoglycosidases prior to the step of analyzing, and wherein the results of different enzymatic digestions are compared in the step of analyzing.

10 6. **[WITHDRAWN]** The method of analyzing of Claim

5 wherein the endoglycosidases are selected from the group consisting of endo  $\beta$ -1,4-glucanase, exo- $\alpha$ -1,4-glucanase and  $\alpha$ -1-4-glucan glucohydrolase.

7. **[WITHDRAWN]** The method of analyzing of Claim 1, wherein heavily laundered textile samples are distinguished from less heavily laundered textile samples by a showing of  
15 fewer carbohydrate multimers when the extract is analyzed

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8. **[ WITHDRAWN]** The method of analyzing of Claim 1, wherein highly processed wood pulp is distinguished from less highly processed wood pulp by a showing of fewer carbohydrate multimers when the extract is analyzed.

5 9. **[ WITHDRAWN]** The method of analyzing of Claim 1, wherein a food grain is distinguished from other food grains by the pattern produced by analyzing the aqueous solution.

10 10. **[ WITHDRAWN]** A method to monitor waste water for evidence of domestic laundry activities comprising the step of analyzing the waste water looking for polysaccharide multimers, said multimers being evidence that the waste water contains effluent from laundering cotton fabric.

11. **[ WITHDRAWN]** A method to identify the species of a sample of wood or other cellulosic material of plant origin comprising the steps of:  
extracting specimens of known species of wood or cellulosic material with dilute hot acid to produce known extracts,  
15 analyzing each known extract to reveal a pattern of carbohydrate multimers diagnostic of the species from which the extract was made;  
extracting the sample of wood or cellulosic material with dilute hot acid to produce a sample extract;  
20 analyzing the sample extract to reveal a pattern of carbohydrate multimers characteristic of the sample extract; and

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comparing the pattern of the sample extract to the patterns of the known  
extract to determine the species of the sample.

12. **[ WITHDRAWN]** The method of Claim 11 further comprising the  
5 steps of neutralizing the known extracts, treating the neutralized known extracts with an  
alcohol to make a known alcohol precipitate, redissolving the known alcohol precipitate in  
an aqueous solution prior to the step of analyzing the known extracts, neutralizing the  
sample extract, treating the neutralized sample extract with an alcohol to make a known  
alcohol precipitate, redissolving the sample alcohol precipitate in an aqueous solution prior  
to the step of analyzing the sample extract.

10 13. **[ WITHDRAWN]** The method of Claim 12, wherein the alcohol  
used is selected from the group consisting of ethanol and 1-propanol.

14. **[ WITHDRAWN]** The method of Claim 13, wherein both ethanol  
and 1-propanol are used to make alcohol precipitates, and wherein the steps of analyzing  
the known extract and the sample extracts compare redissolved ethanol precipitates to  
15 redissolved 1-propanol precipitates.

15. **[ WITHDRAWN]** The method of Claim 12, wherein the  
redissolved alcohol precipitates are subjected to enzymatic digestion with a series of  
endoglycosidases and exoglycosidases prior to the steps of analyzing, and wherein the  
results of different enzymatic digestions are compared in the steps of analyzing.

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16. **[ WITHDRAWN]** The method of Claim 15, wherein the endoglycosidases are selected from the group consisting of endo  $\beta$ -1,4-glucanase, exo- $\alpha$ -1,4-glucanase and exo-1,4-glucan-glucosylhydrolase.

17. **[ WITHDRAWN]** A method of identifying the source of dust in air  
5 by using the method of Claim 11 on dust filtered from an air sample.

18. **[ WITHDRAWN]** A method to releasing glycan oligomers from glycogen comprising the steps of:  
suspending the glycogen in aqueous medium;  
10 adding an equal volume of 2N hydrochloric acid to yield acidified solution;  
and  
boiling the acidified solution to obtain alpha limit dextrin.

19. **[ WITHDRAWN]** The method according to Claim 18, wherein the glycogen is obtained from human liver tissue, and wherein the alpha limit dextrans are  
15 analyzed to differentiate glycogen from normal livers from glycogen from livers of patients with glycogen storage disease.

20. **[ WITHDRAWN]** The method according to Claim 19, wherein the glycogen storage disease is type II glycogenosis.

21. **[ WITHDRAWN]** A method of characterizing glycogen types  
20 comprising the steps of:

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suspending a glycogen in aqueous medium;  
adding an equal volume of 2N hydrochloric acid to yield acidified solution;  
boiling the acidified solution to obtain alpha limit dextrin;  
neutralizing the alpha limit dextrin and analyzing the alpha limit dextrin to  
5 characterize the glycogen.

22. **[ WITHDRAWN]** A method of analyzing samples containing plant gum  
comprising the steps of:

producing a cold water extract by extracting each sample with cold water;  
treating insoluble materials from the cold water extract step with dilute hot  
10 acid to yield an acid extract;

neutralizing the acid extract; and

analyzing the water extract and the acid extract to reveal the different  
carbohydrate patterns.

23. **[ WITHDRAWN]** The method according to Claim 22, wherein the

15 patterns of different samples are compared to identify a source of plant gum.

24. **[ WITHDRAWN]** The method according to Claim 22, wherein the

patterns are used to authenticate works of art.

25. **[ WITHDRAWN]** The method according to Claim 22, wherein the patterns are  
used to

20 identify a source food additives.

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26. [CURRENTLY AMENDED] A method of analysis analyzing samples of polysaccharide or glycoprotein containing samples of plant or animal origin including textiles, wood pulp, cellulosic materials, starch, glycogen and plant products comprising the steps of: producing a cold water extract by extracting the samples with cold water; treating insoluble materials from the cold water extract step with dilute hot acid to yield an acid extract; neutralizing the acid extract; treating the neutralized acid extract with an alcohol to make an alcohol precipitate; redissolving the alcohol precipitate in an aqueous solution; and analyzing the aqueous solution to reveal a carbohydrate multimer pattern.

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27. [CURRENTLY AMENDED] ~~The method of analysis of claim 26, in which the alcohol precipitation step is not utilized.~~ A method of analyzing samples of polysaccharide or glycoprotein containing samples of plant or animal origin including textiles, wood pulp, cellulosic materials, starch, glycogen and plant products comprising the steps of: producing a cold water extract by extracting the samples with cold water; treating insoluble materials from the cold water extract step with dilute hot acid to yield an acid extract; neutralizing the acid extract; analyzing the aqueous solution to reveal a carbohydrate oligomers pattern and comparing the relative distribution of individual carbohydrate oligomers to that of known reference standards.

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28. **[CURRENTLY AMENDED]** The method of analysis analyzing of claims 26 or 27, further comprising the step of analyzing soluble mono- and oligosaccharides contained in the cold water extract comprising the steps of: producing a cold water extract by extracting the samples with cold water and comparing the  
5 relative distribution of individual mono and oligosaccharides to that of known reference standards.

29. **[CURRENTLY AMENDED]** The method of analysis analyzing of claim 26, wherein the alcohol used is selected from the group consisting of ethanol and  
10 1-propanol.

30. **[CURRENTLY AMENDED]** The method of analysis analyzing of claim 28, wherein both ethanol and 1-propanol are used to make alcohol precipitates, and wherein the step of analyzing the aqueous solution compares redissolved  
15 ethanol precipitate to redissolved 1-propanol precipitate.

31 **[Previously presented]**. The method of analysis analyzing of claim 26, wherein the redissolved alcohol precipitate is subjected to enzymatic digestion . with a series of endoglycosidases and exoglycosidases prior to the step of  
20 analyzing, and wherein the results of different enzymatic digestions are compared in the step of analyzing.



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32. **[CURRENTLY AMENDED]** The method of analysis analyzing of claim 27, wherein the neutralized extract is subjected to enzymatic digestion with a series of endoglycosidases and exoglycosidases prior to the step of analyzing, and wherein the results of 4 different enzymatic digestions are compared in the step of analyzing.

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~~33. **[CURRENTLY AMENDED]** The method of analysis analyzing of claims 24 or 25,~~ wherein the endoglycosidases are selected from the group consisting of endo- $\beta$  1,4 glucanase, exo- $\alpha$ -1,4-glucanase and  $\alpha$ -1-4-glucan glucohydrolase.

10 34. **[CURRENTLY AMENDED]** The method of analysis analyzing of claims 26 or 27, quantitative differences in different relative abundance of glycan oligomers when the extract is analyzed.

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35. **[CURRENTLY AMENDED]** The method of analysis analyzing of claims 26 or 27, wherein the identity of the species of a sample of wood or other polysaccharide containing material of plant origin is determined and/or highly processed wood pulp is distinguished from less highly processed wood pulp by a difference in the relative  
20 quantity and distribution of carbohydrate multimers when the extract is analyzed and compared to appropriate reference samples.

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36. [CURRENTLY AMENDED] The method of ~~analysis~~ analyzing of claim 26,  
wherein a food grain is distinguished from other food grains by the glycoconjugate  
~~profile produced by analyzing the aqueous solution~~ analyzing the aqueous extract  
and comparing the relative abundance of glycoconjugates in the extract to a  
5 similarly prepared extract of known samples of food grains

37. [CURRENTLY AMENDED] A method utilizing claims 26-33 wherein the sample  
is waste water and the sample is analyzed for the presence of glycan oligomers  
as evidence of discharge of polysaccharides from domestic laundry activities or other  
10 processing of polysaccharide containing material further comprising the step of  
analyzing the waste water ~~looking for polysaccharide multimers, said multimers being~~  
~~evidence that the waste water contains effluent from laundering cotton fabric or other~~  
~~identifiable polysaccharide source~~ sample directly and treating the waste water  
sample with dilute hot acid to yield an acid extract; neutralizing the acid extract;  
15 analyzing the aqueous solution to reveal a carbohydrate oligomer pattern and  
comparing the relative distribution of individual carbohydrate oligomers to that of  
known reference standards to determine the ultimate source of the  
polysaccharide material.

38. [CURRENTLY AMENDED] A method utilizing claims 26-33 in which the sample  
20 contains a plant gum ~~and can be utilized to identify the plant gum in foods,~~  
~~pharmaceuticals or work of art for the purpose of authentication~~ and the subsequent

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comparison of the glycan oligomer pattern with that of known samples of plant gums enables the identification of the plant gum in the unknown sample of food, pharmaceutical or work of art for the purpose of authenticating the work of art based on the plant gums known to have been used by the artist.

39. [CURRENTLY AMENDED] A method of identifying the source contribution of polysaccharides of plant or animal origin of dust in air by using the method of claims 20-33 on dust ~~filtered from an air sample~~ removed from an air sample by a filter to  
10 identify the polysaccharide based on the glycan oligomer distribution when compared with the glycan oligomer distribution pattern of a reference sample.

40. [CURRENTLY AMENDED] A method to identify differences due to environmental or genetic factors in alpha glycans such as starch or glycogen using the method of  
15 claims 26-33 to identify the polysaccharide by comparing the relative distribution of glycan oligomers to the relative distribution of glycan oligomers in a similar extract of a reference sample.

Respectfully submitted,

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